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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,092	03/08/2001	Thomas J. Cloonan	04807000008	4937

7590 07/01/2005

EXAMINER
MANNING, JOHN

ART UNIT	PAPER NUMBER
2614	

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DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/802,092	CLOONAN ET AL	
	Examiner	Art Unit	
	John Manning	2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Fijolek et al. (US Pat No 6,223,222).

In regard to claim 1 and 10, Figolek discloses a method and system for quality-of-service in a data-over-cable system using configuration protocol messaging. The claimed step of "receiving a request for bandwidth on a cable data system link from a first ISP by a requesting subscriber" is met by Figures 18 and 19. "However, FIG. 18 illustrates a QoS server 332 used to determine whether CMTS 12 has available bandwidth to provide a specific quality-of-service request to a CM 16" (Col 29, Lines 56-59). The claimed steps of "determining available bandwidth on said cable data system link", "determining available bandwidth on the cable data system link for the first ISP" and "comparing available bandwidth for said first ISP with the amount of requested bandwidth" are also met by Figures 18 and 19. "The first network device determines whether the second network device has enough available bandwidth to establish the connection to the third network device with the specific quality-of-service requested at

step 340. The bandwidth determination includes a bandwidth determination required for CoS, QoS and other parameters. If the first network device has enough bandwidth to establish the connection to the third network device with the specific quality-of-service at step 340, a bandwidth required for the specific quality-of-service is subtracted from an available bandwidth for the second network device at step 342" (Col 33, Lines 42-53). The claimed step of "granting or denying cable data service to the new subscriber based upon the determination of whether the available bandwidth is greater than, less than or equal to the bandwidth to be allocated to the new subscriber" is also met by Figure 18 and 19. "At step 344, a quality-of-service identifier is assigned to the specific quality-of-service bandwidth requested. The quality-of-service identifier is assigned based on bandwidth required CoS, QoS and other parameters. The assigned quality-of-service identifier is saved on the first network device at step 346. The assigned quality-of-service identifier is sent to the second network device indicating the second network device has enough bandwidth to allow the connection with the specific quality-of-service requested at step 348. If the first network device does not have enough available bandwidth to establish the connection to the third network device with the specific quality-of-service requested by the third network device at step 340, a rejection is sent to the first network device at step 350" (Col 33, Lines 53-65; also see Col 33-34, Lines 66-11).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-4, 11 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fijolek et al. in view of Vogel (US Pat No 6,742,187).

In regard to claim 2, 4, 11 and 13, Fijolek is silent on transferring the subscriber to a different data channel with more available capacity when the requested channel is less than the bandwidth to be allocated where the bandwidth is determined before the transfer. Vogel teaches transferring a subscriber to a different channel with a greater channel capacity when the available capacity on a channel degrades (and thereby is less than the bandwidth requested). "As noted earlier in this document, when impairments in the upstream channel from the cable modem to CMTS exist, cable modem systems provide for the ability to change the upstream channel in which a given cable modem uses to transmit. However, prior art methods involving the Upstream Channel Change (UCC) message exchange are not deterministic, that is, the time required for the change cannot be known in advance, therefore this method of operation is inadequate for voice applications, such as Voice over Internet Protocol (VoIP) applications, Internet telephony, Internet video on demand, or other time critical services, where service can be lost by such delays or degraded below service quality objectives. In addition, because of the potentially long time associated with the UCC

message exchange, dynamic load balancing becomes inefficient" (Col 13, Lines 10-25). Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fijolek with switching to a different channel when the available capacity is less than the bandwidth requested where the bandwidth is determined before the transfer so as to reduce delay in channels and efficiently provide dynamic load balancing in the upstream direction.

In regard to claim 3, Fijolek is silent on randomly transferring the subscriber to a different cable data system link. Vogel teaches transferring a subscriber to a different channel with a greater channel capacity when the available capacity on a channel degrades (and thereby is less than the bandwidth requested). The transferring of a subscriber is random because the degradation of a channel is random (See Col 13, Lines 10-25 and Col 3, Lines 10-16). Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fijolek with switching to a different channel based on a random event so as to reduce delay in channels and efficiently provide dynamic load balancing in the upstream direction.

5. Claims 5 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fijolek et al. in view of Allen (US Pat No 5,850,965).

The examiner notes that U.S. Patent 6,850,965 is a continuation-in-part of U.S. Application No. 09/344,688 support for the Co. 23, Lines 18-57 of the patent can be found in application 09/344,688 (specifically on pages 18-20).

In regard to claims 5 and 14, Fijolek teaches denying service if the available bandwidth on a requested channel is less than the bandwidth being allocated. Fijolek

fails to teach granting service if the available bandwidth on a requested channel is less than the bandwidth being allocated. Allen teaches granting services when the bandwidth on the requested channel is less than the bandwidth being allocated but greater than the sums of the minimum flow rates on the channel (Col. 23, Lines 18-40). Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fijolek by granting service if the available bandwidth on a requested channel is less than the bandwidth being allocated as taught by Allen in order to maximizing charges thereby increasing profits by using the reserve bandwidth (Col. 23, Lines 48-57).

6. Claims 6, 7, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fijolek et al. in view of Allen and further in view of Yao et al. (US Pat No 6,097,697).

In regard to claims 6, 7, 15 and 16, Fijolek and Allen teach allocation schemes but are silent on losing packets when a channel is oversubscribed and when the packets are randomly lost. Yao teaches in a congested network (e.g. oversubscribed) I that it is common to randomly lost packets (Col 4, Lines 20-45). Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fijolek and Allen by randomly losing packets in a congested network as taught by Yao in order to effectively adjust the transmission rates to reduce the number of lost packets (Col 2, Lines 41-44).

7. Claim 6, 8, 15, and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Fijolek et al. in view of Allen and further in view of Selinger (US Pat No 6,345,038).

In regard to claims 6, 8, 15, and 17, Fijolek and Allen teach allocation schemes but are silent on losing packets when a channel is oversubscribed and when the packets are based on levels of service, where higher levels of service lose less packets. Selinger teaches priority ordered queues (Col 7, Lines 51-63), which give a priority to packets having higher levels of Quality of Service (QoS), thereby when a channel is oversubscribed the higher levels of service drop less packets (Col 1, Lines 49-63). Consequently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fijolek and Allen by losing packets are based on levels of service, where higher levels of service lose less packets as taught by Selinger in order to guarantee subscribers a level of service during heavy congestion, thereby enabling users to pay for the type of service that they would like to receive.

8. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fijolek et al.

In regard to claims 9 and 18, Fijolek is silent on granting service to a requesting service reserved for a second ISP. However, the examiner take Official Notice that it is notoriously well known in the art at the time the invention was made to granting service to a requesting service reserved for a second ISP so as to provide a particular data service an assured amount of bandwidth. Consquently, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fijolek by granting service to a requesting service reserved for a second ISP for the stated advantage.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Manning whose telephone number is 571-272-7352. The examiner can normally be reached on M-F: 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM
June 18, 2005

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600